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KEWA

NEWSLETTER OF THE LONDON CHAPTER,
ONTARIO ARCHAEOLOGICAL SOCIETY

LONDON CHAPTER
OAS

April, 1988

88-4

The MacPherson Site and Osteological Research in Ontario

Dr. Shelley Saunders
McMaster University

Shelley Saunders conducted the analysis of over twenty burials from the MacPherson site, an Early Historic Neutral village north of Hamilton. This site was being salvage-mitigated prior to the development of a subdivision, and arrangements for reinterment of the burials left only a few short months to complete all analysis. Despite the pressure, a full osteological analysis of the remains was completed, and some of the results will be discussed. Further, the large number of burials within the village allowed Shelley to examine an aspect of Neutral osteology not previously well documented. This is the last presentation prior to the summer break, so come out and see everyone a last time before the field season kicks up in full swing. Meeting time is Thursday, April 12 at 8PM, at the Museum of Indian Archaeology.

A little advance reminder: our September speaker will be Christine Caroppo, President of the Ontario Archaeological Society. That presentation is scheduled for September 8th, same place and time.

1988 LONDON CHAPTER SUMMER PICNIC

As always, we wouldn't want to go the entire summer without finding an excuse to get together, so once again we have arranged for the annual summer picnic. This year our summer feast will be held at the Longwoods Road Conservation Area, on Saturday June 18th. Admission into the Area will be free for OAS members, and we have booked the picnic pavilion by the south parking lot. The picnic will start around 3 in the afternoon, but come earlier if you want to see the facilities. See inside this issue for directions and further information.

Chapter Executive

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EXECUTIVE REPORT

At the last meeting of the Chapter Executive, discussion regarding financial guidelines, operating guidelines for the Occasional Publication Series, and responsibilities led into a general discussion of the need for Chapter guidelines. With the Chapter expanding every year, and operations now involving the responsibility of managing cash and assets over $20,000, it was decided that the Executive will attempt to draft together a set of guidelines for the Chapter. This will be presented in an upcoming issue of **KEWA**. If approved by the membership, these guidelines will be the basis for running the Chapter well into the future. Any member in good standing can provide input on the formation of these guidelines. If interested contact a member of the Executive or phone the Chapter office (433-8401).

The Executive is pleased to report that Treasurer George Connoy came out of his operation at the begining of April in top form, and will be back in action within a few short months. Also, London Initiatives Committee chairman Mike Gibbs announced that at a recent London City Council meeting, London LACAC recommendations regarding both assessment of subdivision plans for archaeological potential, and a possible Master Plan for the City of London were accepted. Mike will provide us with a report of these current events in the next issue of **KEWA**.

* * *

LONDON CHAPTER FIELD OPPORTUNITIES AT THE VAN BEMMEL SITE - 1988

Once again London Chapter members, as well as the general public, are welcome to join in the excavations at the Van Bemmel site, near Chatham Ontario. Excavations this year will include further work on the Younge Phase (ca. 1000-1200 AD) late fall camp site; as well as testing Middle Woodland, Late Archaic and Early Archaic components on the knoll. Volunteers do not have to have prior field experience, just a willingness to help. Excavations will go through the summer and early fall, and consist of day trips, either on weekends (Sundays) or during the week. Transportation will be provided from the London area. For those of you further west, or anyone who wishes to visit the site by their own means of transportation, the site is located on Kent County Road 14, just north of Highway 401. From the 401 exit at Highway 40, take the road north, and turn right onto County Road 14 immediately north of the 401. Follow 14 about three miles. The site is located just south of the road, adjacent to a Hydro tower. For information regarding when people will be out on the site, phone Neal Ferris at 433-8401 (weekdays) or 432-2165 to find out when the next field day will be. Remember: This is a Passport To The Past event, so those of you who have them, bring out your passports to be stamped. Also, please remember to bring a bag-lunch!

* * *

SOCIAL REPORT

As mentioned on the cover of this issue, our Annual Summer Picnic will be held this summer at the Longwoods Road Conservation Area, about a twenty minute drive west of London on Highway 2 (just west of the Highway 402-Highway 2 interchange). For those of you who have not had the opportunity to vist the conservation area in the past, Longwoods has a number of facilities to offer visitors, including a prehistoric Iroquoian village (complete with palisade and longhouses, etc.); nature trails; a resource centre; and group picnic facilities. The Picnic will officially start at about 3 PM, but come earlier if you want to visit the various attractions. As usual, fun will include food, meeting members, drink, and various non-athletic activities such as softball, atlatl throw (if everyone brings out their equipment), seige the executive, etc. (based on preference). So take a break from your busy schedule this summer and have some fun. Don't forget, BYOF (Bring Your Own Food), although paper plates, cups, barbeque equipment, brickettes and a refreshing punch will be supplied by the Chapter. In case of rain, please contact your executive. Alcholic beverages are not allowed on the Authority's property.

We are sad to announce that our Chapter Lab Nights are finished for another season. The last one was held on May 5, and we will be on hiatus until late September. Thanks to all those who came out to help process Van Bemmel material, hope to see you all next fall!

EDITOR'S NOTE

Readers will find that this issue is rather substantial, and is another thematic KEWA. The three articles presented herein all explore the theme of Glen Meyer burial practices. Bill Fox and Mike Spence each discuss the remains found at the Elliott site, while Shelley Saunders and Deirdre MacKenzie-Ward take a look at the burials from the Glen Meyer component of the multi-component Reid site. In specific, they all examine the notion of Glen Meyer "Transport Burials", and burial discard. The differing interpretations of the data by each of the authors reflects the difficulty of understanding such cultural behaviour based solely on archaeological and osteological data.

A reminder to readers, this represents the last issue of KEWA to be mailed before the summer break. the next issue (88-5) will appear in September. Also, due to the size of this issue, Nineteenth Century Notes and Projectile Point Types features, as well as our 1988 members-subscribers list, will not appear in this issue, although all three will be provided in the next KEWA.

THE ELLIOTT VILLAGE: PIT OF THE DEAD

William A. Fox

The multi-village Elliott site salvage project, accomplished during the fall of 1982, has been described by the writer elsewhere (Fox 1983a; 1986a). Elliott is but one of many Glen Meyer sites situated on the Norfolk sand plain north of Long Point bay; however, even as the evidence came from the ground it became obvious that this was not "just another Glen Meyer village." A V-shaped antler comb, as well as red ochre paint palettes of ceramic sherds and turtle shell fragments recovered from only a limited number of houses, promised to provide new insights into Early Ontario Iroquois ritual activities (Fox 1986a: 14; 1986c).

Excavation of a large, roughly 1.4 meter diameter pit (Feature 283) in the vicinity of several palisade lines exposed scattered human remains (Figure 1). Work ceased and Dr. M. Spence (infra.) kindly agreed to examine the deposit. Except for an isolated human molar from a small ash pit in House 14 (Fox 1986b: 29), Feature 283 produced the only human remains exposed during the excavation of over 200 features. This large pit was unusual in a number of other attributes, including its placement. Only one other "Type 1" (storage) pit was located outside a house and it too was situated adjacent to a palisade (Fox 1986a: Figure 4).

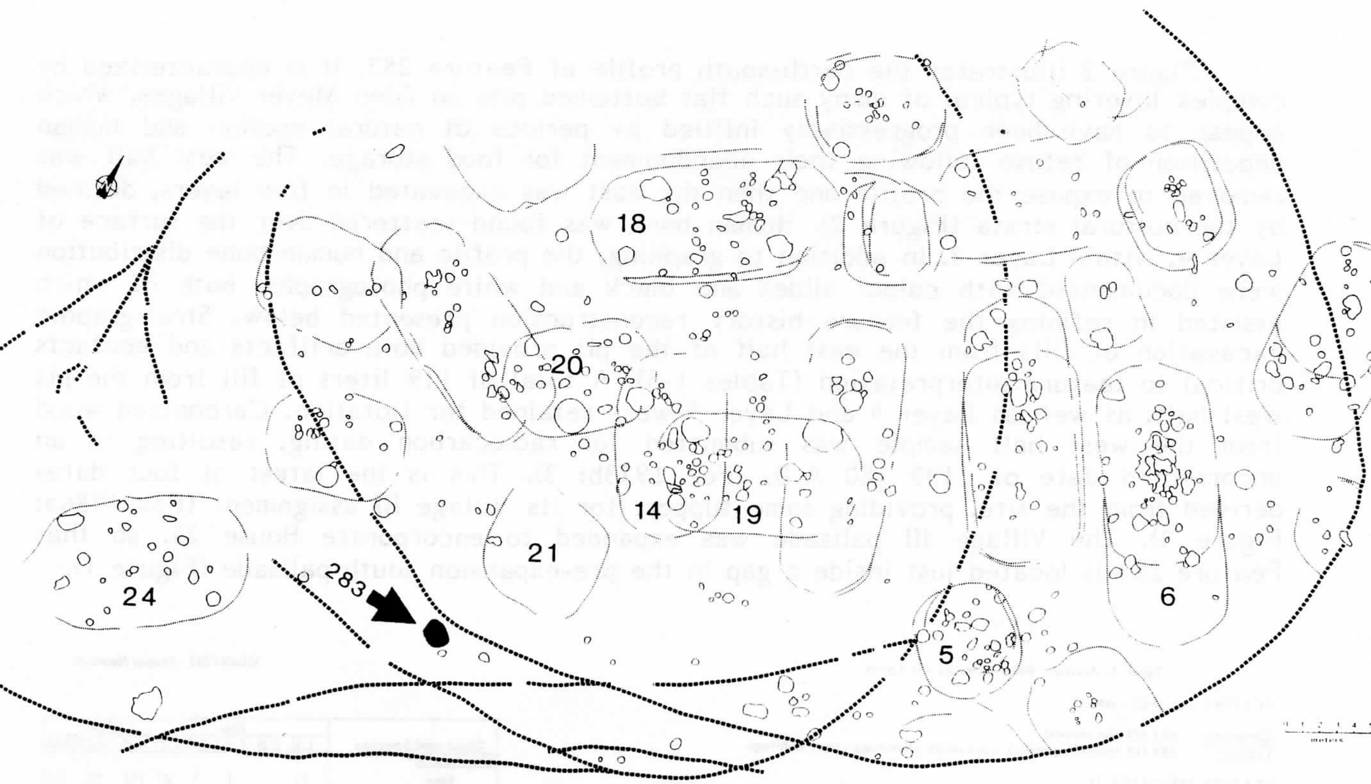

Figure 1: Location of Feature 283 on the Elliott House.

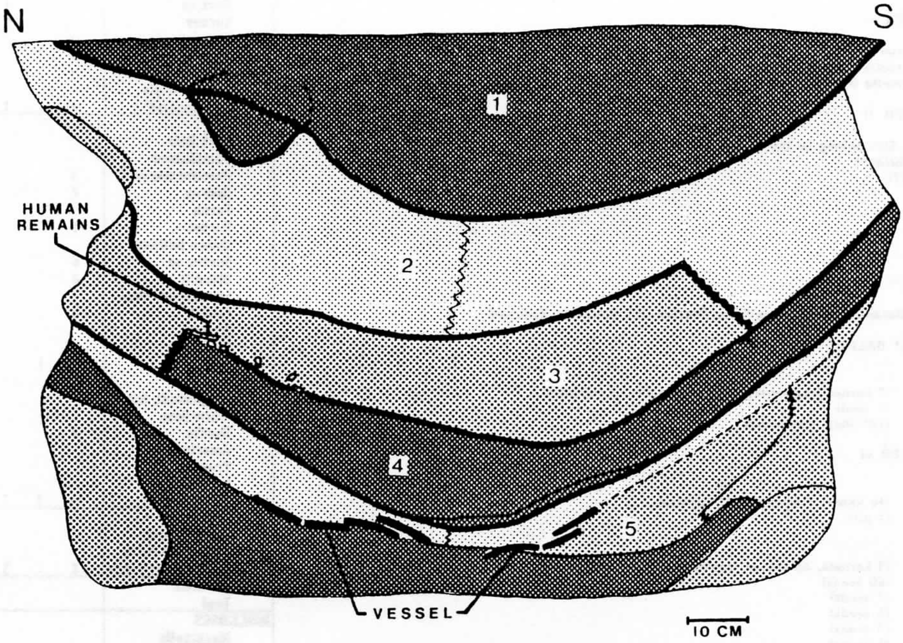

Figure 2: Profile of Feature 283.

Figure 2 illustrates the north-south profile of Feature 283. It is characterized by complex layering typical of many such flat bottomed pits on Glen Meyer villages, which appear to have been progressively infilled by periods of natural erosion and human deposition of refuse following their abandonment for food storage. The west half was removed to expose the profile and then the east was excavated in five layers, defined by the cultural strata (Figure 2). Human bone was found scattered over the surface of Layer 4, within Layer 3. In addition to graphing, the profile and human bone distribution were documented with colour slides and black and white photographs, both of which assisted in refining the feature history reconstruction presented below. Stratigraphic excavation of fills from the east half of the pit provided both artifacts and ecofacts critical to feature interpretation (Tables 1-3). A total of 119 liters of fill from the pit west half, as well as Layer 4 and Layer 5 were retained for flotation. Carbonized wood from the west half sample was submitted for radiocarbon dating, resulting in an uncorrected date of 1190 ±80 A.D. (Fox 1983b: 3). This is the latest of four dates derived from the site, providing some support for its Village III assignment (Fox 1986a: Figure 3). The Village III palisade was expanded to encorporate House 24, so that Feature 283 is located just inside a gap in the pre-expansion south palisade (Figure 1).

Table 1: Artifact Recoveries by Pit Layer

FEATURE 283 (WEST HALF)

Ceramics: 411 (25 rim sherds)
Lithics: 888 (15 tools/fragments) - primarily Onondaga chert debitage

FEATURE 283 (LAYER 1)

Ceramics: 336 (5 rim sherds, 1 pipe bowl fragment, 1 palette)
Lithics: 346 (2 tools/fragments) - primarily Onondaga chert debitage

FEATURE 283 (LAYER 2)

Ceramics: 25
Lithics: 44 - Onondaga chert debitage

FEATURE 283 (LAYER 3)

Ceramics: 17
Lithics: 70 (1 biface tip)
Bone: 1 awl

FEATURE 283 (LAYER 4)

Ceramics: 106 (1 rim sherd)
Lithics: 170 (5 tools/fragments)
Shell: 3 Marginella beads

FEATURE 283 (LAYER 5)

Ceramics: 400 (c. 80% belong to the large vessel)
Lithics: 78 (1 biface)
Bone: 1 awl (?)

Table 3: Botanical Recoveries From Feature 283 Flotation Residues

FEATURE 283 (WEST HALF)

Heavy Fraction:

Corn	(7 kernel fragments, 2 cob fragments, 3 cupules)
Squash	(1 seed)
Butternut	(105 shell fragments)

FEATURE 283 (LAYER 4)

Heavy Fraction:

Corn	(14 kernel fragments, 25 cupules)
Wild Plum	(1 pit)

Light Fraction:

Corn	(3 kernels, 68 kernel fragments, 139 cob fragments)
Raspberry	(60 seeds)
Strawberry	(7 seeds)
Tobacco	(6 seeds)
Sumac	(5 seeds)
Goosefoot	(4 seeds)
Purselane	(2 seeds)
Nightshade	(2 seeds)
Spikenard	(1 seed)

Elliott F283 - Faunal Material

Class and Species	East						West	
	L 1	L 2	L 3	L 3*	L 4	L 5	all	TOTAL
MAMMALS								
Deer	13		1	8	20	152	82	276
Grey Squirrel			3	2	16	1	5	27
Raccoon					2	5	8	15
Beaver	3					2	2	7
Bear						1	4	5
Meadow Vole						4		4
Chipmunk					3		1	4
Woodchuck	1						2	3
Moose							1	1
Marten							1	1
Fisher							1	1
Unidentified	85	5	17	4	75	680	485	1351
BIRDS								
Greater Scaup						14		14
Duck sp.			1		5		1	7
Turkey					1	2		3
Blue Jay							2	2
Passenger Pigeon	1							1
Grouse sp.					1			1
Golden ? Eagle				1				1
Unidentified	4		1		5	2	5	17
FISH								
Rock Bass					63	698		761
Pumkinseed					21	317		338
Perciformes sp.	3				33	286		322
Bass sp.	2				38	228	22	290
Perch						152		152
Burbot	1			1	22	3	18	45
Brown Bullhead					4	5	10	19
Sucker sp.	6						11	17
Bluegill	2						13	15
Smallmouth Bass					1	11		12
Catfish	8			1	2			11
Walleye					10			10
Whitefish					5		4	9
Sturgeon	1	1			2	1	3	8
Pike	6							6
Largemouth Bass						6		6
White Bass					4			4
Bowfin	1				2			3
American Eel							2	2
Trout					1			1
Lepomis sp.					1			1
Unidentified	33	3	7		374	4195	80	4692
REPTILES								
Painted Turtle					12	1	10	23
Blanding's Turtle					1			1
Unidentified Turtle	2		5			2	2	11
AMPHIBIANS								
Toad							7	7
MOLLUSCS								
Marginella					3			3
Clam (Elliptio sp.)				1		1		2
CLASS UNCERTAIN		4					20	24
TOTALS	172	13	35	18	727	6769	802	8536

* faunal material associated with human remains

History of Feature 283

Figure 3 utilizes all the artifact and ecofact data, combined with profile information to present a hypothetical history of events involving Feature 283. Data relating to probable season of procurement for fauna (particularly fish and migratory fowl) have played a major role, as have carbonized berry seeds and evidence of periodic pit wall collapse.

	Annual Cycle	Events
Year I (1&2)	Winter	Storage
	Spring	Abandonment/
	Summer	Erosion
	Fall	
Year II (3&4)	Winter	Refuse Deposited
	Spring	Erosion
	Summer	Feast Refuse Deposited
	Fall	
Year III (5)	Winter	
	Spring	Erosion
	Summer	Refuse Deposited
	Fall	
Year IV (6)	Winter	
	Spring	Deposit Human Remains, Erosion/Refuse Deposited
	Summer	
	Fall	
Year V (7)	Winter	
	Spring	Erosion
	Summer	
	Fall	
Year VI or VII (8)	Winter	
	Spring	
	Summer	Deposit Refuse in a Sheet Midden

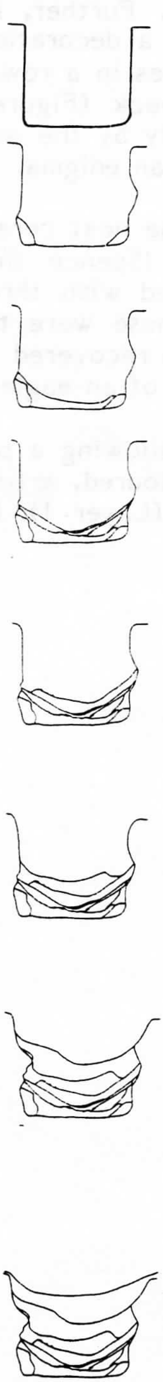

Figure 3: Hypothetical Feature History by Seasons of Feature 283.

Most of a shattered vessel along with a massive deposit of fish bone in Layer 5 have been interpreted as refuse relating to a feast. It is significant that this layer produced 6769 of the total 8536 bone elements recovered from Feature 283. Further, this pit total represents an amazing 29% of the faunal remains obtained from 188 features across the entire site area salvaged.

The vessel itself (Figure 4) is unique in several respects. Standing over 40 cm in height, with an orifice diameter of just over 33 cm, it is one of the largest vessels from the site. Further, it displays a double row of interior punctates producing exterior bosses - a decoration motif found on no other Elliott vessel. Finally, there are eleven short lines in a row, which were incised in an oblique pattern into the wet clay of the vessel neck (Figure 4). This idiosynchratic expression has never been documented previously by the writer on any Glen Meyer vessel. What these eleven strokes represent remains an enigma.

The next ceremonial event represented within Feature 283 is unequivocal. Human remains (Spence infra.) were exposed on the upper surface of Layer 4, closely associated with three small marine shells (Marginella sp.) and a golden(?) eagle wing digit. These were the only eagle or marine shell remains identified among the 29,000 elements recovered from the site (Prevec 1987). Could the eagle digit represent the last vestiges of an eagle wing fan? Were the shell beads deposited as condolence offerings?

Following a period of substantial (primarily natural?) infilling represented by the light coloured, artifact poor Layer 2, an artifact rich, ashy midden blanketed the pit feature (Layer 1). It is this uppermost (last) deposit which produced all the ceramics

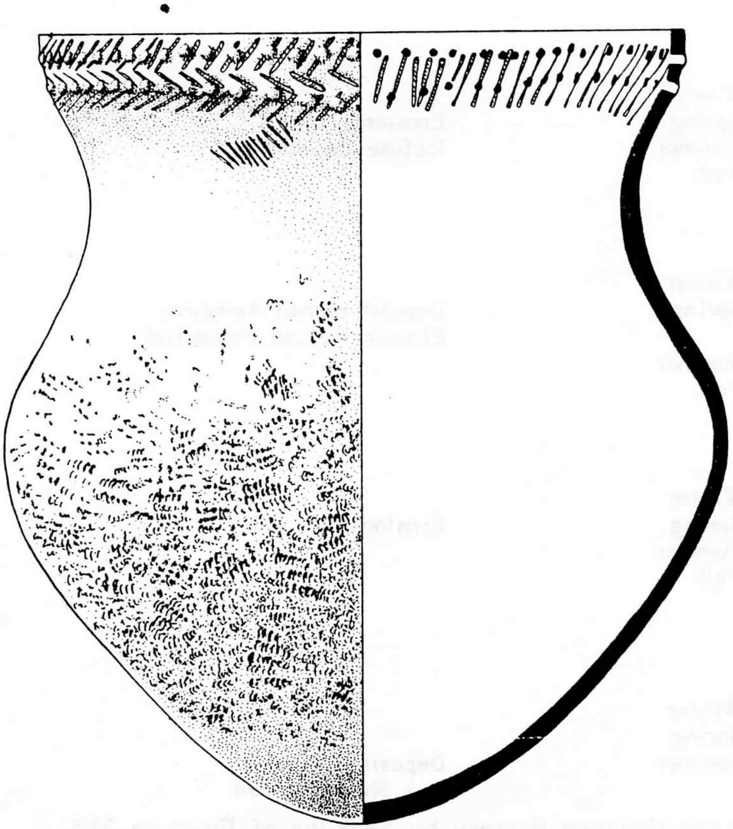

Figure 4: Artist's Reconstruction of the Layer 5 Vessel (see text for scale).

with layer provenience which cross-mend to other Village III features (Fox 1986b). The mends connect Feature 283 to Houses 18, 19 and 20, with two separate vessels cross-mending to House 18. The latter connection is further strengthened by the recovery of two red ochre stained palette fragments (1 ceramic, 1 turtle shell) from Layer 1. Three storage pits in House 18 also produced ochre stained turtle shell palettes, while only one other feature on the site contained such an item. What is more, the Layer 1 faunal assemblage - probably a spring deposit considering the quantity of sucker and pike, plus the presence of burbot and passenger pigeon (Table 2), is very similar to the assemblage characterizing the pit layer producing turtle shell palettes in House 18.

Returning to the ceramic mends, it should be noted in defence of the hypothesized lengthy period of Feature 283 infilling that there are no evident inter-layer/intra-pit cross-mends. There are only mends within layers or between layers and the general west half provenience. Sherds from the west half also cross-mend with other Elliott site features, creating a certain frustration with this necessarily general provenience unit. This is exacerbated by the recovery of two unique faunal specimens from the west half of the pit - a moose incisor and fisher foot bone. The latter could indicate the former existence of a fisher pelt, and both articles could represent artifacts associated with ritual events evidenced in the pit.

To summarize, Feature 283 seems to contain evidence of three separate ritual events. The first was a feast (probably village wide), featuring panfish which were probably acquired through net fishing in Long Point bay during the early summer months. These small fish were returned to the village whole (dried?), and thus the period of consumption may considerably post-date procurement (ie. fall, winter?). A lack of ceramic cross-mends to village houses, plus a major portion (made up of large sherds) of a large vessel, suggest that the ceremony may have taken place nearby Feature 283.

The second event was a mortuary ceremony which may have occurred during late winter or spring (Figure 3). Part of the program involved the selection of bone elements for reburial elsewhere (Spence infra.). The presence of tiny phalanges from a 1.5 to 2 year old child suggests that the individual was wrapped (in bark?), that the container did not disintegrate (in or above ground), and that the bone selection was done in the container and/or adjacent to the pit. It is possible that some of the large post holes near Feature 283 and the palisade supported burial scaffolds. It is also possible that the anomalous structure - virtually featureless and square (House 21) just north of Feature 283, functioned as a meeting place in Village III, housing events such as the feast and mortuary ceremony. Perhaps it even served as a charnel-house.

Evidence presented above relating to the third event suggest that it occurred across Village III in House 18, the longest house in that village phase (Figure 1). It also seems to have been held in the spring. Red ochre palettes from Houses 5 & 6 of Village II indicate that similar ceremonies were practised at an earlier date on the Elliott site.

Ethnographic Correlations

Any attempt to further understand this limited archaeological evidence must of necessity turn to ethnohistoric and ethnographic information which post-dates the Elliott villages by over four centuries. Assuming that our current culture historical constructs are correct, the descendants of the Elliott population were among the Neutral Confederacy in the Hamilton vicinity during French contact in the early seventeenth century. We have some French observations concerning Ontario Iroquois rituals prior to their mid-seventeenth century dispersal; however, extremely little pertains to the Neutral, whose mortuary traditions were obviously different than those of their better documented Huron neighbours. The most detailed accounts of Iroquoian ritual derive from nineteenth and early twentieth century ethnographic observations concerning the Six Nations Iroquois. Much relates to the Seneca tribe who are reported to have destroyed the Neutral nation. It is based on this tenuous seven century thread of continuity that the following "historical upstreaming" (Voget 1984) is offered.

If we turn to the most evident ceremony, involving mortuary ritual, we find two associated elements - the eagle bone and the three marine shell beads. The use of shell beads is amply attested as part of the Iroquois condolence ceremonies attending the death of a chief (Hale 1895). A.C. Parker (Converse 1974) provides a number of observations regarding eagles. Of the formerly secret Eagle Society, he states that "the sign of membership....is a round spot of red paint on either cheek" (Converse 1974: 69). Parker notes that Oh-swe-da (Spirit of the Spruce) wears the wings of an owl and eagle on his head. This spirit is related to the origin of the Oh-gi-we Society ("Talkers with the Dead"), who present the Death Dance (Converse 1974: 83). Finally, in connection with the killing or releasing of a bird above the grave of the newly dead, he observes that "the eagle is the only bird that looks straight into the eyes of the sun" (Converse 1974: 96).

Of the 'Ohgi'we (Feast of the Dead of the Nations), Fenton and Kurath (1951: 145) report that this semi-annual feast was held either in the late fall (late October-December) or early Spring (April), and was referred to as the great kettle by the Huron and Six Nations Iroquois. The large vessel from Feature 283 (Figure 4) would have constituted a "great kettle" on the Elliott site, but need not relate to the feast of the dead. Among the modern Seneca, there are seven "festivals of thanksgiving", primarily associated with plant foods (Fenton 1941: 145). If the Layer 5 fish were consumed shortly after they were taken, then the Feature 283 feast may have been analogous in timing to the Green Corn Festival. Indeed, it may represent one of an ancient series of thanksgiving festivals relating to fish and game. Could this have increased the annual calendar of feast events to eleven - the number of strokes on the vessel?

Turning finally to the springtime ritual involving the use of red ochre paint, we have relatively few references among the Iroquois to the use of red paint outside of war. Fenton and Kurath (1953: 102) have suggested that the Eagle Dance ritual presently connected with the Eagle medicine society derived from ancient war and peace rites. Parker (Converse 1974: 142) states that if a purple wampum belt was adorned with red paint or a red feather it signified war. As noted above, Parker (1909: 174) states that "every member participating in the (Eagle Dance) ceremony paints on each cheek a round red spot" and that the "signal pole and the striking stick are spirally striped with red paint" (Parker 1909: 176). Nevertheless, this very sacred ceremony does have a healing aspect in that it revives dying or old people.

We have seen that the eagle is also closely associated with death ritual. The life/death dichotomy is also expressed through the use of red body paint in the legend entitled "The Dream Fast, Jis-go-ga, the Robin" (Converse 1974: 109), where the narrator states "I was willing, and painted my body red when I felt my spirit departing..." and later exclaims "Jis-go-ga, the Robin, the bird which brings us the spring!" (1974: 110). Could it be that the Elliott site 'Ohgi'we Death Chanters spoke to the dead in the spring of rebirth? Could it be that the bi-annual ritual events evidenced in Feature 283 all reflect different aspects of ancient Iroquois mortuary ceremony?

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THE HUMAN SKELETAL MATERIAL OF THE ELLIOTT SITE
Michael W. Spence

Introduction

The large, stratified refuse pit (Feature 283), containing human bone found at the Elliott site (AfHc-2) during excavations, and discussed in detail by Fox (infra.), was excavated by Linda Gibbs, of the London Chapter of the Ontario Archaeological Society, and myself in the fall of 1982. This was the only pit context on the site to produce human bone. The bone in Feature 283 consisted of a large, undifferentiated mass spread over most of the northwest quarter of the pit, with a slight overflow into the northeast segment. It followed the contour of the layer, sloping down from the sides to the low point at the pit centre. Bones were mapped and excavated in a series of clusters. It should be emphasized, though, that these clusters were arbitrary, a devise to facilitate recording. In reality the bone was a single, continuous deposit. The only distinguishable sub-units were two small clusters at the north edge of the mass, although these do not seem to have been a separate deposit. Figure 1 shows the distribution of bones that could be identified with a particular individual. None of the ribs (which interlaced the entire deposit, blending it into a single mass) were plotted. Also, several bones were not precisely located and so could not be included in the plan. The arrangement of the bone suggests that it had been dumped into the pit from the north or northwest edge.

The Individuals

Elements of 4 individuals, each of them highly incomplete, were identified (Table 1). Individual A is a middle age adult, B is a child of 9-10 years; C is about 7 years; and D is about 1.5-2 years of age. Most bones could be assigned to one or the other, but 16 ribs could only be identified as belonging to either B or C. These two individuals are too close in age to make any further distinction.

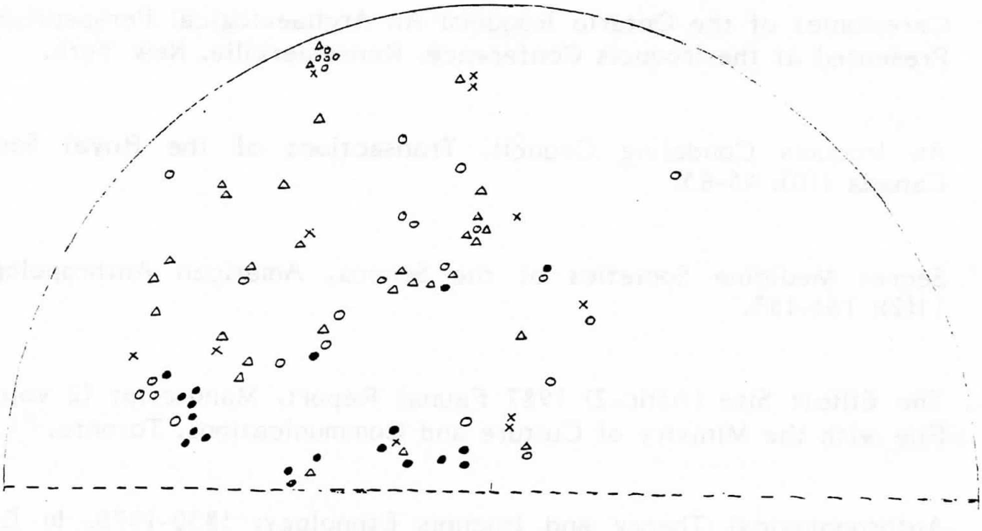

Figure 1 — Human Bones in North Half of Elliott F283

(locations approximate)

Individual A	o
Individual B	△
Individual C	×
Individual D	●

Table 1: Individual Representation, F283 Elliott Site

Individual A

dentition: maxillary - molar; left medial incisor and first premolar right lateral incisor, canine and second premolar
mandibular - left medial incisor and first premolar; right lateral incisor and second premolar
vertebrae: cervical - 3 (C3 or C4; C6-C7)
thoracic - 4 (T1; 3 unidentifiable)
lumbar - 2 (L1; L2 or L3)
coccyx - 1 (first)
ribs: all
manubrium
right clavicle
upper limb: left and right capitate, left navicular, right lunate,
left first, third and fifth metacarpals,
3 proximal, 3 middle and 1 distal phalanges
lower limb: left patella
right second cuneiform
1 proximal or middle phalanx

Individual B

vertebrae: cervical - 2 (C2; one of C3-C6)
thoracic - 6 (T1; 3 upper or middle; T11-T12)
lumbar - 4 (L1; L3-L5)
sacral - 3 (S1-S3, unfused)
ribs: 1 first rib
16 ribs of either individual B or C
manubrium
left and right scapulae
left clavicle
left pubis
upper limb: right ulna and radius
right lunate and navicular
right second metacarpal
1 proximal and 1 distal phalanges
lower limb: distal epiphysis of right femur
distal epiphysis of right tibia
right fibula
right calcaneus, talus and first cuneiform
right second and fourth metatarsals

Individual C

dentition: maxillary - deciduous canine and left medial incisor
mandibular - deciduous right first molar and permanent first or second molar
vertebrae: cervical - 1 (C2)
thoracic - 6
lumbar - 2
ribs: 16 ribs of either individual B or C
lower limbs: left cuboid

Individual D

vertebrae: thoracic, possible lumbar, 5 arches
unidentified - 8 bodies
ribs: 3
left pubis
right ischium
upper limbs: right ulna
capitate
4 phalanges
lower limbs: left fibula
left talus
left and right first metatarsals
first proximal phalanx
unidentifiable phalanges: 9

Table 4
Burial G Individual Representation, Bruce Boyd Site

Individuals G1/G2

1 mandible
vertebrae: 1 thoracic
L innominate
upper limb: 1 L and 2 R humeri, radii and ulnae
4 metacarpals
lower limb: 4 femora, tibiae, and fibulae
2 R tali

Individuals G1/G2/G3

vertebrae: 4 cervicals
ribs: 2
upper limb: 2 L capitates, 1 R hamate, 1 R triquetrum,
1 R fourth metacarpal
lower limb: 1 L third cuneiform, 1 L cuboid, 1 L navicular,
1 L fifth metatarsal
unidentifiable: 1 phalange
a few small, badly deteriorated hand/foot bones

Individual G3

vertebrae: all from T4 through the sacrum
ribs: all left and several right
L and R innominate
upper limb: L and R humeri and radii, L ulna, 1 phalange
lower limb: L and R femora, tibiae and fibulae
L and R tali, R calcaneus

Individual G4

cranium
mandible
upper limb: R humerus

Individual G5

vertebrae: 1 arch

Table 2
Metric Data, Individual A

measurements in mm.

R clavicle:	
maximum length	162
maximum mid-shaft diameter	12
L patella:	
maximum height	44
maximum breadth	43
maximum thickness	20
module	35.7

TABLE 3 - METRIC DATA, INDIVIDUALS B AND D

	ELLIOTT B/D	BALL #6	BALL #1	BALL #3	MONARCH KNOLL	COMPARABLE AGE IN YEARS FO DIAPHYSIS LENGTHS	
		8± 1 mos.	8± 1 yrs.	11± 1 yrs.	8-9 yrs.	Arikara	Generalized Nat
Individual D							
L fibula:							
maximum length	110		213	270	226	0.5-1.5	1.1-1.8
maximum mid-shaft diameter	6				9		
R ulna:							
maximum length	97	80		203		0.5-1.5	1.2-1.9
maximum mid-shaft diameter	7						
Individual B							
R fibula:							
maximum length	253		217	269	226(L)	8.5-9.5	8.8-10.0
maximum mid-shaft diameter	10				9(L)		
R ulna:							
maximum length	191	80		203		8.5-9.5	8.8-13.3
maximum mid-shaft diameter	11						
R radius:							
maximum length	173	70		186	152	8.5-9.5	8.7-13.5
maximum mid-shaft diameter	10				9		
L clavicle:							
maximum length	108		102	114	95(R)		
maximum mid-shaft diameter	8				7(R)		
R scapula:							
maximum length	112						
maximum breadth	76						
R talus:							
maximum length	42				41		
maximum breadth	33				30		
R calcaneus:							
maximum length	58				51		
maximum breadth	36				31		
maximum height	36				32		

Individual A: Individual A is represented by bones from most parts of the body, though none of the large bones are present (Table 1). There are 9 vertebrae, 24 ribs, the manubrium, the right clavicle, the coccyx, the left patella, 10 teeth, 14 hand bones (including 5 left and 2 right carpals and metacarpals), and 2 bones of the feet. Conspicuously absent are the cranium, mandible, innominates, scapulae, and long bones of the arms and legs. All epiphyses and secondary centres are fused, though the manubrium has not fused with the sternum or the coccyx to the sacrum. The general state of fusion and the condition of the bone indicate an adult of young or middle age. Attrition on the teeth suggests a person in the 30-45 year span. Wear on the maxillary teeth is generally like that of Bennett site individual 5-1, some 45±10 years of age (Patterson 1984: pl. Xc), though some teeth show lighter attrition. Bennett is Pickering phase and dates about 1250 AD (Wright and Anderson 1969). It is early enough in the agricultural sequence of southern Ontario to suggest rates of attrition comparable to those of Elliott.

Unfortunately, none of the recovered bones gives an indication of sex. The sparse metric data available (Table 2) do not point clearly to either sex when compared to the Saugeen and Iroquois evidence (Molto 1979: Tables 9-10, 21; Anderson 1963: Figure 5).

Two of the cervical vertebrae have normal foramina transversaria but C6 has a double foramen on the right side, with the smaller one located posteriorally. The right inferior articular facet is pathologically enlarged and pitted. Of the 4 thoracics, one is T1, one is slightly further down the column, and two go together in about the middle of the thoracic section. None show evidence of arthritis, though one (the second in the thoracic sequence) has bilateral inferior laminal spurs. The first lumbar has a severe compression fracture of the superior body; body height is 29 mm posteriorally, 19 anteriorally, and 11 at the most compressed point, in the centre. The superior rim has extended anteriorally some 9 mm. The only other lumbar, L2 or L3, is slightly compressed, 30 mm high posteriorally and 22 anteriorally; has slight lipping of the inferior rim, and some pathological "erosion" of the inferior body. There is no mammillary foramen on either side (Saunders 1978:77). Neither lumbar vertebra exhibits spondylolysis. The right clavicle has no supra-clavicular foramen, no rhomboid fossa, and no subclavian facet (Saunders 1978:64). The left patella has a vastus facet but no notch. Of the 24 ribs, 3 show slight arthritic lipping of the head.

There are 10 teeth (Table 1). Caries are present in two: the upper left medial incisor (ULI1) and an upper molar. The crown of the molar has been totally destroyed, while the ULI1 caries is located distally at the enamel-cementum junction. No fractures were observed, but chips had been struck from the buccal and mesial crown edges of the upper right second premolar (URPM2), the mesio-buccal corner of LLPM1, and the buccal edge of URC. Evidence of hypoplasia occurred on ULI1, LRI2, and URC. There were slight buccal calculus deposits on URI2, URC and LLPM1, and slight lingual deposits on LLPM1 and LRPM2. No enamel extensions or pearls occurred on the upper molar. The moderately low proportion of caries (20%) is what would be expected of an early agricultural Ontario population (Patterson 1984: Table 9.20). The incidence of tooth trauma (30%) seems more typical of Middle Woodland, though it falls between the incidences for Middle and Late Woodland components (Patterson 1984: Table 9.22). Both features, then, reflect the transitional nature of early Glen Meyer subsistence, with its developing stress on maize horticulture supplemented by a still very significant hunting and fishing component.

Individual B: Though the most complete individual in the Elliott series, B is still drastically under-represented (Table 1). There are 12 vertebrae, as well as 3 sacral segments. Sixteen ribs cannot be assigned to either B or C, but probably include elements of both. One first rib, however, can be assigned definitely to individual B. There is also the manubrium, both scapulae, the left clavicle, the left pubic bone, several elements of the right forearm and hand, and several element of the right leg and foot. Only two phalanges, both hand, were found.

The age of B was determined to be 9-10 years, based on the size and state of fusion of the bones. The axis vertebra shows fusion of all segments, including the odontoid process, but still lacks the inferior epiphyseal ring. The other vertebrae all have the arches fused to the bodies, indicating an age of 7 or more years, but none of the secondary centres (of spine, transverse processes or epihyseal rings) have yet fused. The pubic bone has not fused with the ischium, an event that occurs about 7-9 years. None of the three sacral segments has started to fuse, nor have the posterior epiphyses of the calcaneus, the heads of the metacarpal and metatarsals, the secondary centres of the scapulae, or the epiphyses of the clavicle and the long bones. Only the distal epiphyses of the right femur and tibia were recovered.

The data on fusion indicate only that B is a child between 7 years of age and puberty. In the absence of teeth a more specific assessment must depend on bone size, particularly the diaphysis lengths. Fortunately, we have some comparative data (Table 3). Ubelaker has published measurements for the Arikara, and a composite "generalized Native" set of ages can be roughly determined from his graphs of Arikara and Indian Knoll growth curves (1978: Table 5, Figs. 63-69). Probably somewhat more relevant are the data presented by Melbye (1983: Tables 1-2,4) on three sub-adults of the Late Ontario Iroquois Ball site, and by Molto (1983) on an 8-9 year old Middle Woodland child from the Monarch Knoll site near Waterloo, Ontario. In terms of both time and diet, Elliott stands somewhere between these two sites. The Ball and Monarch Knoll data suggest that B falls between 8 and 11 years (Table 3). The Arikara material indicates and age of roughly 8.5-9.5 years, though Molto (1983) and Melbye (1983: 15-16, 19, 26-27) suggest that the diaphyseal measurements may tend to slightly underestimate age. The generalized Natives figures, though rough, do suggest somewhat older ages. Individual B, by those criteria, would be best placed in the 9-13 year span. All things considered, an age of 9-10 years seems to be a reasonable assessment.

The axis vertebra shows no ossification of the apical ligament and both foramina transversaria are normal, as they are on the only other individual B cervical found (from somewhere in the C3-C6 range). Of the 6 thoracic vertebrae, one can be identified as T1 and 2 others as probably T11 and T12; the other 3 are from somewhere in the upper or middle sector of the thoracic part of the vertebral column. The lumbars include all but L2. None show spondylolysis.

Both scapulae are largely complete, but only the right one could be measured (Table 3). The maximum length is an estimate, since the apex of the superior angle has broken, but it is accuarate to within 1 mm. Neither scapula has a suprascapular notch or foramen, though a notch may only become apparent at a more advanced age (Saunders 1978:150).

The right arm is represented by the ulna, radius, 2 carpal bones, and the second metacarpal. No bones from the left arm were identified. The right leg is represented by the distal epiphyses of the femur and tibia, the diaphysis of the right fibula, 3 tarsals, and 2 metatarsals. There are no bones at all from the left leg, and no phalanges from either. Metric data are presented in Table 3. Non-metric observations are of limited reliability at this age, since they are too likely to change with futher development (Saunders 1978). No evidence of pathology was noted.

Individual C: Individual C is represented by 9 vertebrae, 4 teeth, the left cuboid, and probably some of the 16 ribs which cannot be assigned unequivocally to either B or C. The vertebrae include the axis, 6 thoracics (one represented only by a broken arch), and two sequential lumbars. The axis shows partial but still incomplete fusion of the odontoid process, while the foramina transveraria are not yet fully enclosed by bone and the epiphyseal ring has not fused. The other vertebrae all show fusion of the arch to the body (with the lines of fusion still apparent) but no secondary centre fusion. All are somewhat smaller that their individual B counterparts. The size and state of fusion suggest an age of roughly 7 years.

The development and wear of the four teeth assigned to individual C are consistent with the suggestation that all are from the same person, a child of about 6-8 years (Ubelaker 1978: Figure 62). The one permanent tooth is the LRM1, with roots only about three-quarters complete but some light wear on the cusps. There is a mesial contact facet but no distal one. There are no enamel extensions and no protostylid. The cusp pattern is Y5. The deciduous teeth are an upper canine, with a fully developed root and considerable wear; ULI1 with some wear and a root open only at the very tip; and a LRM1 with developed roots, a distal contact facet for the M2, and an occlusal surface largely flattened by wear. None show caries, hypoplasia or calculus, but there is a chip on the buccal edge of the canine crown. With only 3 deciduous teeth there is little point to trying to place individual D in Patterson's (1984) sequence. A minority of deciduous canines are chipped at both the Middle Woodland Le Vesconte site and the Pickering phase Bennett site (Patterson 1984: Table 9.22).

Individual D: Individual D is poorly represented (Table 1). There are 8 vertebral bodies and 5 unfused arches. Although the arches are readily identifiable as thoracic and perhaps lumbar, the bodies are more difficult to place. Size and form suggest that 2 are cervical, 4 are thoracic, and 3 are lumbar. There are one fragmented and 2 complete ribs, the left fibula, the left pubic bone, the right ischium, and the right ulna. Bones of the extremities are the two first metatarsals, the left talus, a capitate, and 14 phalages (some definitely from the hand). Thus both feet and at least one of the hands of D are represented in the feature, though none are complete.

The thoracic arches show full fusion of the arch halves, a process that starts in the first year with the lumbars and proceeds up the vertebral column. About year three the cervical arches start to join the bodies, with fusion proceeding down the vertebral column and continuing into the sixth or seventh year (Gross 1959; Anderson 1962: Figure 52). A nineteenth century Caucasian child of 9-12 months (based on dental development, Ubelaker 1978: Figure 62) in the University of Western Ontario collections is somewhat smaller that D and still shows no fusion of the vertebral arch segments. Individual D, then, must be between one and 3 years of age. in terms of diaphyseal length, Ball 6 (8 months) is younger than D (Table 3). The Arikara data suggest an age for D of 0.5-1.5 years, while the generalized Native growth curves gives a slightly higher estimate of roughly 1.2-1.8 years. Since diaphyseal age estimates seem to lag slightly behind actual (or at least dental) age, individual D is probably between 1.5 and 2 years.

The Elliott Site Burial Programme

There is a cluster of Glen Meyer sites in the area of the Big Otter and Big Creeks. Some (e.g. DeWaele, Van Besien, Elliott) are well inland, along the upper reaches of the creeks and their tributaries, while others (e.g. Bruce Boyd, Reid) are near the lakeshore. William A. Fox, referring in particular to this cluster, has suggested that the Glen Meyer people moved each spring from the large inland sites to smaller fishing stations along the Lake Erie shore. The bodies of those who died over the preceding year at the inland site were then retrieved and taken to the lakeshore site for final burial (Fox pers. comm.; Fox 1976: 169, 175-176; 1984; Noble 1975: 5, 47). Elliott Feature 283 gives us some insight into this process. It apparently holds remains discarded in the course of a sorting that occurred in the spring, as the winter dead were taken from their primary resting places and prepared for transfer to the lakeshore site. At that time each body was processed, with some elements being treated basically as refuse while others were retained for final burial.

Crude mortality rates defined for northern Late Woodland agriculturalists suggest a contributing population of about 100. Though Churcher and Kenyon (1960: 230, 263) propose an annual death rate of about 3% for Tabor Hill, Cybulski (quoted in Pendergast 1983:51) prefers a rate of 4%. Ubelaker, using a Late Woodland ossuary series from Maryland, suggests a crude mortality rate of 43.52 per 1000 per year (1978:96). Pfeiffer's (1983:10) rate for the Uxbridge ossuary is 40.0 per 1000 annually, while Melbye suggests 41.8 for the Fairty ossuary (Knight and Melbye 1983:46). Given this, the Elliott population that produced the 4 dead of Feature 283 consisted of about 100 individuals. This, of course, assumes that this particular year was not one of unusually high or low mortality, and that no further deaths occurred over the spring or summer, when the lakeshore sites were occupied and burial could have taken place immediately. Though most deaths would have occurred over the winter, a minority might well have happened by the lakeshore and would appear as single primary burials there. These would not be represented in Feature 283, leading to an underestimate (though not a major one) of the number of annual dead. To approach the matter in a broader context, the total number of indentified burials for the Big and Big Otter Creek area is 24 individuals in 6 features: 8 individuals in 3 features at the Bruce Boyd site (1 feature with 1 person, 1 with 2, and 1 with 5); 12 in 2 features at Reid (1 with 7 people, 1 with 5); and the 4 from Elliott (Wright 1978; Fox 1984; Saunders and MacKenzie-Ward infra.). This gives an average of 4 dead per year, also suggesting an average contributing population of 100. The Force site, just beyond the area, produced a pit with one individual and one with 8 individuals, suggesting somewhat more irregular annual mortality but an average near that of the sites along Big Otter and Big creeks (J.E. Molto, pers. comm.).

As Figure 1 shows, the 4 individuals were largely intermingled in the deposit. No single sector contains the bones of only one person, and no one individual is isolated from the others. Nevertheless, some patterns are visible. Individual D, the youngest child, is confined almost entirely to an arc along the southern edge of the deposit. The bones of C are scattered throughout it. Though also widely dispersed, the bones of B show a vague concentration across the centre of the deposit. A also occurs throughout the deposit, though with some concentration in the north half. This suggests that the four individuals received separate primary burials and were processed separately, but that no attempt was made to maintain these distinctions when the bones were deposited in the refuse pit. Indeed, the distribution of the bones indicate that they were casually thrown or dumped into the feature, rather than carefully placed there.

There were only three articulated segments in the deposit. Two thoracic vertebrae of C were still articulated in the small cluster (which also included B's axis) at the north edge of the deposit, while two lumbar vertebrae of C were in virtual articulation (their centra displaced only by 2 cm.) at the southeastern edge. Three phalanges of D were together near the southern edge. A few "near articulations" were also observed: the right radius of B rested diagonally across the right ulna, though the ends were reversed (and the ulna bears cut marks from the severing of the hand); B's third and fourth lumbar vertebrae were near the first sacral segment (the fifth lumbar and second sacral segment were several centimeters to the east); and a vertebral body and arch of D lay beside each other. Though often interlaced together, the numerous ribs were never in articualtion. The irregular representation of the vertebral columns also indicate extensive disarticulation. For example, although all of A's ribs were found, only 9 of 24 vertebrae were present.

This evidence suggests that the flesh had either largely decomposed or had been deliberately stripped from the bodies. The paucity of cut marks, which appear on only 3 of the 160 recovered bones, argues against extensive dismemberment. Probably only an occasional muscle or tendon remained to be cut. The right ulna of B bears a set of 4 short, roughly parallel cuts on the postero-lateral edge of the distal part of the shaft, probably from severing the Extensor pollicis longus to separate the hand from the forearm. B's right first rib has a transverse slash across the upper surface, near the anterior end. A lower rib of either B or C, has a 9 mm long transverse cut across the internal surface at about the mid-point of the rib. Also, both A and C lost a number of teeth. This indicates that the gums had largely decomposed, freeing the teeth from the fleshy attachments that had held them firmly in their sockets. They would then have been more likely to fall out in the jostling that accompanied their transfer and sorting. The absence of many of the smaller bones (distal phalanges, carpals, sub-adult epiphyses etc.) also suggest extensive decomposition.

It is impossible with the available evidence to be sure whether the primary burial was in a pit or was an exposure burial of some sort, perhaps on a platform or in a charnel-house. However, an exposure burial seems more likely. No primary burial pits have been identified in Glen Meyer sites, though some were found at Dymock II, a contemporaneous Younge tradition site some distance to the west (Fox 1982). Also, the advanced state of decomposition suggests some form of exposure. The absence of gnawing marks on the bones indicates that they may have been protected somehow from scavengers, perhaps by covers or some sort of container.

There were probably some fairly well defined principles underlying the decisions made during the sorting process about which bones were to be retained for final burial and which were to be discarded. However, these principles are only dimly reflected in the archaeological record. A number of other factors may intervene between the exposure, the sorting and the final burial. For one, we can assume the loss of some bones, particularly the smaller ones, during the exposure burial and in transfer to the sorting area. Also, since those elements considered inessential were apparently treated in a rather cavalier fashion, not all would necessarily have ended up in Feature 283. Though none of the other features in the area produced human bone, some of the bones may have been tossed aside, carried off by dogs, or simply left lying about on the ground. Many of the ten human bones found scattered about Van Besien, particularly the vertebral and hand parts, may be cases in point (Noble 1975:42).

Also, it appears likely that some elements, though not considered vital in themselves, were retained for the final burial because they were still firmly attached to other parts. None of the left hand and foot bones of B were found in Feature 283, though presumably not all would have been lost before or during sorting. More probably, the left hand and foot were still largely articulated with the arm and leg, and so were set aside with them for transfer to the lakeshore site. In a Glen Meyer burial at the Bruce Boyd site, a right femur, tibia, fibula, talus and calcaneus were found articulated in a tightly flexed position.

There is also the possibility that sorting was not always as systematic or as careful as we might imagine. The presence of the B and D long bones in Feature 283 suggests that less care may have been exercised with sub-adults. However, this does not necessarily indicate a lower status for sub-adults. It may simply be that sub-adult bones were smaller and less readily recognized, or that the bodies of sub-adults did not remain articulated as long. As noted above, the degree of articulation seems to have been a factor in the retention of even adult elements.

We cannot weigh all of these factors with the available evidence, though some patterns are suggested by the Feature 283 data. Long bones seem generally to have been retained for final burial, though those that became disarticulated were more vulnerable to discard. The bones of the hands and feet, unless well attached, were lost or discarded. Crania and mandibles were invariably retained. Elements of the thorax, if not well articulated, were discarded. The scapulae and innominates are largely missing from Feature 283 and so may have been retained, though the evidence from other sites is somewhat ambiguous on this point.

Comparative Data

No deposits of human bone have been recovered from the other inland sites (De Waele and Van Besien), despite extensive excavations there. For that matter, the other two occupations of the Elliott site produced no features comparable to Feature 283. It may be that the "discard burial" of Feature 283 represents a disposal mode that, however casual, was still more formal than that generally accorded the residue of sorted burials in the Glen Meyer phase. The elements found scattered in the refuse at Van Besien may be closer to the norm (Noble 1975).

The Bruce Boyd site on the Lake Erie shore has a Glen Meyer component, one of the spring-summer fishing stations in which final burial took place (Fox 1976: 169, 176). Three burials there have been assigned to Glen Meyer phase (Spence, Wall and King 1981). Two radiocarbon dates for the Glen Meyer component are 1050 AD ±60 on burial G (S-1840), and 1090 AD ±65 (S-1287). The site is only 900 metres from Big Creek, and so might well be the spring-summer fishing station of the Elliott site people themselves. If so, the Glen Meyer phase burials there should be complementary to Feature 283 in terms of material present and degree of articulation.

Of the three Glen Meyer burials at the site, two were badly disturbed. We know very little of Burial O, a single and apparently incomplete adult individual. At least the cranium, the mandible, and some long bones were present. Burial B held two disturbed individuals. B1, a female of 18-25 years, was represented by the cranium, mandible, right ilium, a cervical vertebra (C3?), and an unidentifiable bone. Though extensive plow damage precludes details on the degree of articulation, the burial was certainly not primary. B2, an adult, consisted of only a mandible and a few unidentifiable fragments. Burial G had deteriorated somewhat but was fortunately undisturbed. It contains five individuals, all secondary burials (Table 4). No cut marks were present, though the poor condition of the bone hindered observation in some cases. G5, an infant of 4-8 months, is represented only by the neural arch of a vertebra. G4, 8-10 years, consists of a cranium and mandible in articulation (though with no cervicals) and the right humerus. G3 is a male of about 18 years. G1 and G2 are adults. Since it was generally impossible to distinguish the bones of G1 and G2, they will be considered together. Several smaller bones could belong to any of the three adults (Table 4).

The arm bones of G3 were totally disarticulated. The right leg was intact from femur to calcaneus, but only the tibia and fibula of the left leg retained their articulation. The thorax from the fourth thoracic to the sacrum, with most of the ribs and both innominates (but no scapulae, clavicles, manubrium or sternum), had been deposited as a articulated unit. The cranium and mandible were not present. G1 and G2 have no crania and only one mandible. Most long bones are present, with the exception of one individual's left humerus, ulna, and radius. Articulated segments include all of the lower legs save one (though none was articulated with the femur), a complete right arm, and a right forearm.

Not surprisingly, then, Burial G is not a perfect complement to Feature 283. However, it does reinforce some of the patterns visible in the Elliott site feature. For one, adults are better represented than sub-adults. Indeed, the single vertebral arch of G5 is more likely to have been an accidental inclusion than a deliberate retention from the sorting process. Among adults, long bones were generally retained and were frequently still articulated. Those not in articulation may have been kept because of their size and importance, or they may have been in articulation at the time of the sorting process but fell apart during transfer to the lakeshore site. Elements of the hands and feet were generally not retained, though some were still attached to the limbs. The ribs and vertebrae were only kept if articulated.

There are some discrepancies between the Burial G and Elliott data concerning innominate bones, scapulae, crania and mandibles. The burial G evidence suggests that innominates are likely to be saved when still articulated with the thorax (e.g. burial G3), but they do not occur in Feature 283 despite the presence there of a variety of disarticulated ribs and vertebrae. Perhaps at Elliott they were sorted with femora rather than with the thorax.

No scapulae were present in Burial G, yet only those of individual B were found in Feature 283. Association with the humeri may have been responsible for their paucity in Feature 283, but their absence in Burial G where six humeri occurred casts some doubt on this. The distribution of clavicles parallels that of scapulae to some degree, though not perfectly; they were also absent in Burial G, while two (from individuals A and B) were found at Elliott.

The greatest discrepancy involves the crania and mandibles. Uniformly retained during the Feature 283 sorting, they are inexplicably rare in Burial G. Only one cranium and two mandibles were found. Though the other differences could perhaps be explained by variations in the extent of decomposition, this one must involve other factors. Unless other burials contradict the data from the Elliott and Bruce Boyd sites, we must assume that some crania and/or mandibles were being retained from the sorting process but not committed to the final burial. Their interim and ultimate dispositions are at present a mystery.

Conclusions

Though some principles were at work in the sorting of the burials, they are not always clear. Perhaps analyses of other collections, like those of the Force site, will shed more light on the matter. Crania and mandibles never seem to have been discarded, though their under-representation in secondary burials suggests that in some cases they may have been retained for other purposes. The degree to which bones were articulated and encased in flesh was apparently a qualifying factor in their retention, as was the age of the individual. Sub-adult bones were more likely to be discarded, perhaps because they were smaller and less recognizable and were less apt to remain articulated. Long bones of the arms and legs, especially the humeri and femora, were generally retained. Unless still attached, hands and feet were usually discarded. Elements of the thorax were only retained if articulated. It must also be remembered that elements surviving the sorting process may have become disarticulated during movement to the lakeshore, to be either discarded there or buried as disarticulated bones.

No variation in status based on age, sex or other characteristics is reflected in Feature 283, but none would be expected since the discarded bones were not thought of as significant elements of the deceased individuals. Nor are any distinctions visible in the final burials. The poorer representation of sub-adults may, as suggested above, be due not so much to lower status as to their size and degree of articulation. Though this apparent egalitarianism is in accord with our concept of early Iroquoian society, the question cannot be settled with the available evidence. Distinctions may have been made in the primary burials but not retained through the rest of the burial programme. Since no traces remain of the primary burials (probably because they involved exposure rather than sub-ground interment), we may have to rely on other lines of evidence, like housing or storage pit contents, to investigate status variation in Glen Meyer society.

In sum, Elliott Feature 283 is not a real burial. Rather, it is refuse, the residue discarded during the processing of primary burials for transport to a final burial place near the lakeshore. While the selection of bones for transport was probably accompanied with an important and spiritual ritual (Fox infra.), once deposited the Feature 283 bones apparently were no longer thought to represent or embody any signficant aspect of the deceased, nor was their deposition thought of as a burial. Modern reburial is thus unnecessary, since the ultimate disposal of the bones would have been a matter of indifference to the Glen Meyer people themselves.

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THE REID SITE BURIALS

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Introduction

The Reid site (AdHc-5) is located two miles north of Long Point, on Lake Erie. Adjacent to Diedrich Creek, this site is considered to be an important late Glen Meyer village because of its location and size (Wright 1978; Fox 1976). Extensive excavations were carried out at the site in 1976 in order to fully delimit site size and composition. These excavations identified Reid to be a multi-component, one acre, double-palisaded village containing six longhouses (Wright 1977). It was very likely a spring-fall fishing village established to take advantage of the rich Long Point lacustrine environment (Fox 1976; 1986), although one house appears to have been used year round (MacKenzie n.d.). Artifact seriation dates the site to ca. 1300 A.D. (Wright 1977; 1978), although several non-calibrated radiocarbon dates would suggest the site was occupied around 1400 A.D. (Wright 1978). While temporal occupation of the site requires further clarification, this is a problem we cannot deal with here.

During excavations, two burial features were found in the northeast corner of House 3. While this structure is overlapped by Houses 1 and 2, the burial features were situated underneath the bunkline of House 3, and are believed to be associated with it. Wright (pers. comm.) feels that this house is associated with the early occupation of the site, because of the house's size and placement. Wright briefly reported on the burial features in 1978, based on a preliminary laboratory analysis (McEvoy n.d.). We would like to use this paper to provide a more detailed account of these human remains, as well as some pertinent characteristics that bear on interpretations of the burial pattern and skeletal reconstructions.

Reid Site Burials

Burial 1: This feature, described first as ossuary-type, contained seven individuals: two adult males, a young adult female, two adolescent females and two young children. Consequently, this feature is more appropriately described as a small, disarticulated "family" burial. We were able to assign all loose bones (except ribs) to each individual, based on the overall size of elements, degree of epiphyseal fusion on the bones of the adolescents, and, in a few cases, similarities of bone staining and colour. Age at death and sex of the adolescents and adults were determined using a variety of methods, and are outlined in Table 1. The initial lab analysis (McEvoy n.d.) reported that at least one postcranial element was found within all but one of the skulls. Most frequently this was a hand phalanx, but child's skull #6 contained the ulna from its own skeleton.

Burial 2: This feature is less complete, containing the partial, disarticulated remains of five individuals (reported as two in Wright 1978, but revised in Wright 1977). This maximum estimate is based on mandibles and right tibiae (Table 2). The material is much more fragmentary than that of Burial 1, probably due to soil erosion and plough disturbance (Wright 1977). Thus full reconstructions of the individuals in this burial could not be completed. Burial 2 appears to contain three adult males, one adult female and a young child. Sex was determined by analysis of skulls, pelvic material and the talus (Steele 1976).

Burial Pattern: Both burial features are secondary interments with many smaller elements missing (Table 1). However, neither feature can be considered to contain formal bundle burials (Wright 1977). Burial 1 contained some articulations, such as the vertebral column of Individual #7, but more detailed information on articulations, unfortunately, are not available.

The multi-component Elliott Village, located 31 km north of Reid, is believed to be similar to the early occupation of Reid, based on community patterns and artifact assemblages (Fox 1986). Spence (infra.), has described a Glen Meyer burial feature from the inland Elliott site as a "discard burial". Assuming that the Elliott village people moved to sites close to the lake for the spring and summer fishing season, Spence suggests that most of the long bones, crania and mandibles, and probably any body segments that remained articulated after some degree of decomposition, were taken to these fishing camps for reburial. "Insignificant" elements, such as hand and foot bones, ribs and vertebrae, were left behind.

TABLE 1

Reid Burial Feature 1

dual	Sex	Age	Elements Absent	Age Determination Source
	F	´16 yr	Vertebrae, l.patella, 8 carpals, 4 metacarpals, most fingers, hyoid	Ubelaker, 1984; Trodden, 1982
	F	20-25	mandible, l.ulna, r.rad., tibiae metacarpals and toes of r.foot, 2 metacarpals and 8 phalanges of l.foot, all hand bones, patellae, hyoid	Trodden, 1982; Bass, 1984
	?	12.2-21.5 mo	all hands and feet, fibulae l.femur, vertebrae, radii, ulnae, l.humerus, scapulae, clavicles, hyoid	Moorrees, Fanning and Hunt, 1963; Saunders and Spence, 1987
	F	´13.5 yr	T11, T12, body and right horn of hyoid, coccyx	Ubelaker, 1984; Trodden, 1982
	M	30-34	clavicles, most vertebrae r.patella, l.innominate, all of r.hand, much of l. hand, most foot bones, hyoid	Lovejoy, et al., 1985; Acsadi and Nemeskeri, 1970
	?	12.1 - 15.1 mo	r. scapula, clavicles, l.fem. l.fib., vertebrae, all of hands and feet, hyoid	Moorrees, Fanning and Hunt, 1963; Saunders and Spence, 1987
	M	40-49	mandible, scapulae, r.patella l.fib., most metacarpals, tarsals and toes, some cervical and lumbar vertebrae, hyoid	Lovejoy, et al., 1985

TABLE 2

Reid Burial Feature 2

Minimum number of individuals:

- mandibles (4 adult, 1 child)
- right tibiae (4 adult, 1 child)
- right fibulae (4 adult)
- right ulnae (4 adult)
- right patellae (4 adult)

Identifiable individuals:

Sex	Age	Element	Criteria/Source for Age Determination
?	≃12.2 mo	mandible	dental calcification (Moorrees, Fanning, and Hunt, 1963)
M	25-35 years	skull	cranial features (Bass, 1984); age by attrition (Brothwell, 1981)
M	20-25 years	skull	cranial features (Bass, 1984); age by attrition (Brothwell, 1981); root calcif (Trodden, 1982)
F	30-34 years	hip bone	pelvic features (Bass, 1984); age estimate by auricular surface (Lovejoy, 1985)
?	32-34 years	hip bone	pubic symphysis aging (Todd and Gilbert a McKern in Ubelaker, 1984)

Sex determination also based on discriminate function scores fo (Steele, 1976): 3 males, 1 female

Therefore, group composition of Burial 2 is 3 adult males, 1 adult fe one child.

TABLE 3

Reid Dental Analysis

	Burial 1	Burial 2
Total # of observable permanent teeth:	88	23
Total # of observed carious lesions:	15	5
Percentage of caries by sample:	17.0%	21.7%
Total percentage of caries for site:	18.0%	

Carious lesions by individual:

Burial 1	Burial 2
#1 - 7/26 = 27%	Y3#3 - 3/9 = 33%
#4 - 4/28 = 14%	Y5/Y6 - 2/11 = 18%
#5 - 1/16 = 6%	
#7 - 3/5 = 60%	

Antemortem tooth loss:

	Burial 1	Burial 2
	#1 - 2	Y1&2 - 11
	#5 - 5	Y3#3 - 5
	#7 - 2	Y4#6 - 16
Total:	9	32

Abscessing:

Burial 1	Burial 2
#1 - 2/26 = 8%	Y1&2 - 1 abscess (l. I_{2-C})
#5 - 5/16 = 31%	Y3#3 - 1/8 = 13%
	Y4#6 - 1 healed

Tooth trauma: Burial 1 - 0 Burial 2 - Y3#3: 1

Enamel Hypoplasia:

Burial 1	Burial 2
#1 - all r. max. incisors; r. max. canine	Y3#3 - l. max. incisor
#4 - both mand. canines	

The most frequently missing elements from the Reid burials include hand and foot bones, the spinal column, scapula, clavicle, patella, hips and ribs. Most individuals from Burial 2 are missing skulls and two individuals from Burial 1 also lack mandibles. This seems to fit a pattern in which axial elements are most commonly missing. However, four out of the seven skeletons from Burial 1 possess some hand and foot bones, including fingers and toes, and three out of the seven possess vertebrae. Individual #4 is essentially complete. In Burial 2, axial skeletal elements as well as hand and foot bones are also found. We are thus able to conclude that the corpses were left to decompose after death and were not purposefully disarticulated since there is a complete absence of cutmarks (noted also by McEvoy n.d.). Despite recent debates over the identification of cutmarks on animal bones, disarticulation cutmarks on Iroquoian human skeletons are distinctive in their appearance and location (Jackes 1986).

The death of these individuals in the winter time would have allowed for some decomposition before transporting them for re-interment, but this assumes careful preservation of small body parts. On the other hand, if these individuals died at the site during the spring/fall season we might ask what time is required for skeletonization to occur after death. According to forensic research (Morse et al 1983), partial to complete skeletonization can take two weeks to eight months for surface bodies because of the actions of animals, while buried bodies require a minimum of one to two years for complete skeletonization. Consequently, many variable factors hinder our attempts to decipher mortuary patterns. However, our preferred interpretation is that the majority of these skeletons were not "transport burials".

Skeletal Pathology: Arthritic changes at the joint surfaces of the older individuals were the most common pathological alterations observed. The vertebrae of these individuals exhibit osteophytoses with some laminal spurring on the lower thoracic units of Individual #5 from Burial 1 and thoracic vertebrae from Burial 2. Two vertebrae from Burial 2 have almost coalesced.

Schmorl's nodes, indicating disc herniation, were identified on a lower thoracic vertebra of Individual #7 from Burial 1 and four thoracic units from Burial 2. The eleventh thoracic vetebra from another individual in Burial 2 is wedge-shaped due to a compression fracture.

An adolescent female (#4) from Burial 1 exhibits abnormal lesions on the anterior bodies of thoracic #9 and lumbar #5. There does not appear to be any reactive bone present, though the margins of the lesion on L5 are well-defined. No other bones of the skeleton are affected and there are no other pathological conditions other than enamel hypoplasia. Tuberculosis is a possibility but impossible to confirm; we would not want to rule out the possibility of postmortem alterations.

Dentition: A summary of the pathological changes observed on the teeth and jaws of the Reid sample is presented in Table 3. General conclusions which might be drawn from such a small sample are limited. However, the percentage of caries per total number of observable permanent teeth is 18%, a figure which is in line with other incipient horticulturalists of prehistoric Ontario described and summarized by Patterson (1984). However, estimates of caries prevalence in small samples can be biased by the age distribution of the sample. After examining each individual dentition carefully, we still suspect that the pattern of dental pathology expected for a population which ate moderate amounts of maize or other domesticates is indicated in the Reid skeletons.

Other Observations: Stature was estimated for sexed adult long bones from Burial 1 using the Trotter and Gleser formula for Mongoloids (Ubelaker 1984). Individual #5, the 30-34 year old adult male was an estimated 181.6 cm ± 3.24. Individual #7, the older male, was an estimated 173.9 cm ± 3.24. The stature ranges for males from the late historic Neutral Grimsby site are 162.6 - 173.5 cm (Jackes n.d.). It is possible to test for a significant difference between a single specimen and the mean of a sample using a special case of the t-test (Sokal and Rohlf 1981). our comparisons of the original long bone lengths and stature estimates for the two Reid individuals with the Grimsby males show that Individual #7 is not significantly different, while Individual #5 is tall compared to the Grimsby sample. In fact, Grimsby people may be short compared to other Iroquoians, possibly because of the stresses of contact (Melbye et. al. 1987). There is a significant difference between the platycnemic index of Individual #7 and Grimsby, in that the index for the Reid male is much larger, indicating more flattening, which is possibly related to higher activity levels than among the Grimsby people.

Some tentative comparisons were also made of the sizes of Reid adults' bones with those of Grimsby males and females. Since the Reid material is sparse, incomplete and often fragmentary, only univariate comparisons could be made of some dimensions of single bones to the mean values of the sexed complete skeletons from Grimsby. Individuals #5 and #7, from Burial 1, appear to be larger than the Grimsby males, especially in femoral length, forearm dimensions and joint sizes for Individual #5. The diameters of leg bones for Individual #7 are significantly greater than Grimsby means, as are dimensions of the calcaneus. Tibial dimensions from a male in Burial 2 are greater than Grimsby, as is the height of one male's mandible, possibly the same individual. These Reid males then, are slightly larger and more robust than Grimsby males, an observation which may have more implications for interpretations of Grimsby than for Reid.

No unusual skeletal anomalies were noted although females #1, #2, and #4 of Burial 2 have spetal apertures. A humerus from Burial 2, sexed as male based on comparison of dimensions with Grimsby males and Reid #5, also exhibits a septal aperture.

Conclusions

The Reid bones represent a total of 12 individuals, three of which are young children who died in the second year of life (interestingly, the expected time of high child mortality subsequent to the introduction of solid foods is during the summer months). The remaining individuals include two adolescents, and four out of the nine individuals are female. We argue that most of the bodies do not appear to be transported from inland sites, unless most body parts were preserved carefully in such situations.

Skeletal evidence for pathology is minimal except for a not surprising moderate amount of osteoarthritis in the adults, which shows no preferences for particular joints. Distribution of osteoarthritis is uniform but the condition is slightly more severe in Individual #7 than Individual #5, which is probably related to the difference between the two men's ages. One of these two adult males is estimated to have been over 180 cm in stature and the bones of both are large and robust when compared to males from Grimsby. Dentally, Reid individuals display low to moderate caries, moderate wear and some antemortem tooth loss characteristic of incipient horticulturalists, or those using moderate amounts of starchy carbohydrates. Stable isotope analyses of the bones are presently under way and these may provide valuable information about the proportions of food resources used by these people.

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